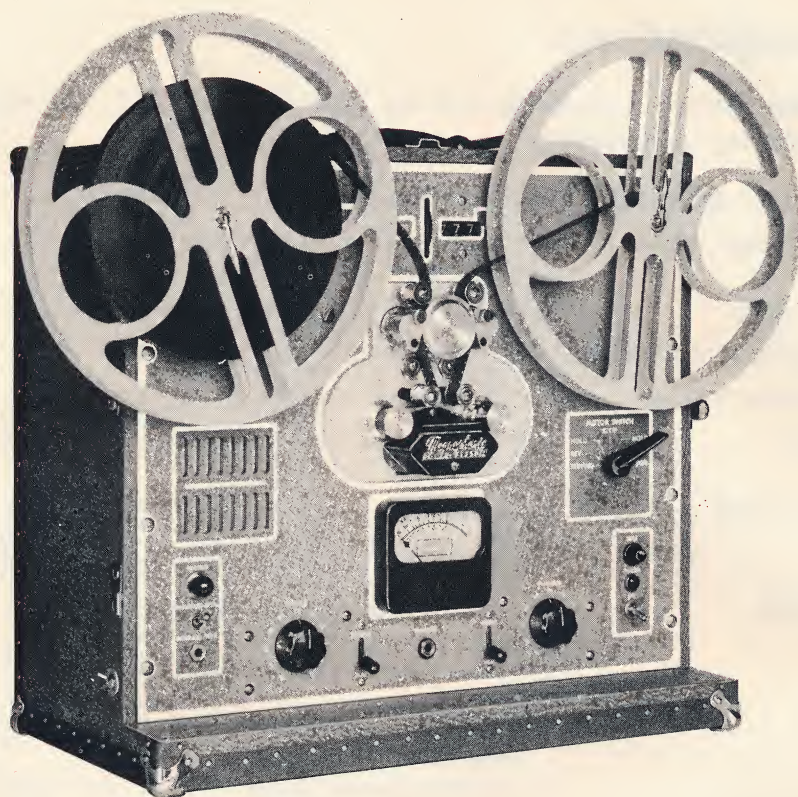


MAGNASYN

MAGNASYNC TYPE 15 RECORDERS



THE ALL-IN-ONE MAGNAPHONIC SOUND SYSTEM

Here, in a single portable case, is a complete, top-quality sound system. Playback monitor amplifier, loudspeaker and recorder are all built into this one compact package. Just open the case and you're in business! Designed for "on-the-go" producers who want to save set-up time.

FEATURES—

- Accurate, chain coupled, easy-to-read footage counter.
- Direct coupled, high resistance rotor torque motors.
- Simplified single-switch for all motor control functions.
- Simultaneous film monitor through separate play head.
- "RECORD" indicator lamp to protect 'takes'.
- Will accommodate standard 1200-foot film reels.
- Bias voltage meter readout.
- S.M.P.T.E. standard performance.

INTERNATIONAL LEADERS IN THE DESIGN AND MANUFACTURE OF QUALITY MAGNETIC FILM RECORDING DEVICES



PORTABLE FILM RECORDERS



MICROPHONE MIXERS



CinemaScope and
TELEVISION
REPRODUCERS



THEATRE
SOUND
EQUIPMENT



STUDIO and
AUTOMATION
REPRODUCERS



INTERLOCKED
DUBBERS



QUALITY AMPLIFIERS for
MAGNETIC RECORDING and REPRODUCTION



MAGNASYNC CORPORATION, P.O. Box 707, North Hollywood, California

PRINTED
IN
U.S.A.

Specifications:

The manufacturer guarantees that the Type 15 Series 400 will equal or better the following specifications:

FREQUENCY RESPONSE	50—8000 cps $\pm$ 2 db
FLUTTER AND WOW	0.18 % maximum rms in any single band. 0.2 % maximum rms overall.
DISTORTION	Less than 2 % total harmonic.
SIGNAL-TO-NOISE RATIO	Greater than 50 db
FILM CAPACITY	Standard 1200 ft. reels.
REWIND	High speed torque motor rewind from reel to reel or instantaneous reverse through sprocket drive.
MOTOR DRIVE	Standard unit furnished with 110 volt, 60 cycle, single phase, salient pole synchronous motor. Other drive motors such as 50 cycle, 3 phase, 220 volt or Selsyn interlock available.
MONITOR	1. 3 1/2" VU meter monitors input signal. 2. Built in monitor speaker and power amplifier. 3. Monitor output (will feed any impedance above 500 ohms.) 4. Monitor direct through amplifier or switch to "Film Monitor" for simultaneous playback from film approximately 1/5 second after recording is made. 5. Auxiliary speaker output 48 ohms with 2 watts of power.
DIALOGUE EQUALIZATION	Switch for bass roll off from 300 cps to —10 db at 100 cps
INPUTS	1. High gain (100 D.B.) microphone channel. (Strapped for 50 ohms standard. Can easily be changed to 250 ohms or 500 ohms). Cannon X-L connector. 2. Hi Impedance input.
OUTPUT	Cathode follower (.2 volt into 600 ohms)
CASE DIMENSIONS	11" x 20" x 18"
TOTAL POWER CONSUMPTION	90 Watts
TRACKING	Edge tracking (X-400-E-15) Center of film (X-400-C-15)

NOTE: All 400 series machines are made for 16mm film transport only. Refer to descriptions of 702, 135 and Mark IX series equipment for 17 1/2 mm and 35mm transport.

MAGNASYNC G-924 Multi-Channel Microphone MIXER



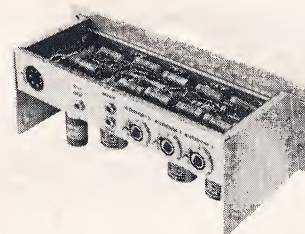
CONSOLE SETUP

For the engineer who prefers a **console** mixing operation, the G-924 Mixer is a 19 pound "miniature console." The units fasten together into a single portable case which is attractively styled in gray leatherette, with rugged fiber binding. Separation of the two units in either setup greatly reduces the problem of a.c. hum in that the power section is completely isolated from the input section.



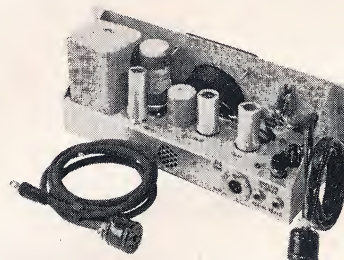
CONVENTIONAL SETUP

Model G-924 is specifically designed for motion picture sound recording and remote broadcast transmission. This high level Mixer features dialog equalization on each incoming channel, master gain control, built-in Microphone talk-back system, and is engineered by and for sound engineers with top quality components. The "conventional" setup offers a professional mixing system when working space is a problem.



INPUT SECTION

Illustration of the under chassis shows a clean printed circuit layout of all component parts to enable quick servicing in the field. In the rear of the input section are three low impedance (50/250/600 ohm) XL Cannon Microphone jacks, each with a full 100 db of gain, one W.E. dual jack connector and one high impedance phone jack connector.



POWER SUPPLY & OUTPUT SECTION

The power section displays a functional layout with ready accessibility to all components. The power section is isolated from the input stage, thereby minimizing a.c. hum pickup (signal to noise level, 65 db. at program level). In the rear of chassis provision is made for an XL Cannon 600 ohm output jack and 2 high impedance phone jacks with separate volume control which enable mixer and boom man to monitor at the same time. The 8-pin Amphenol plug on top of the chassis accommodates a.c. input (110-115 V., 50-60 cycle) or d.c. input from an external battery pack (12 V. or 24 V. "A" battery and 225 V. "B" battery).

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MODEL G-924 MICROPHONE MIXER

FEATURES

- ★ Engineered by and for sound engineers with top quality components.
- ★ "Break-apart" design for mixing convenience. May be set up in conventional single unit arrangement or separated for "console-type" mixing.
- ★ Sections fasten together into single portable case.
- ★ Printed circuit boards.
- ★ Finger-tip, color coded equalization control for each microphone channel. Switch to "music" or "speech" instantly.
- ★ "Talk-back" mike and switch for communication between mixer and recorder operator. Output of talk-back, feeding into line, can be used to record "sync" mark and identify scenes.
- ★ A.C. power supply is isolated from microphone input transformers to minimize hum pickup.
- ★ D.C. operation through optional battery pack.
- ★ Open chassis design for service accessibility.
- ★ Attractively packaged in grey leatherette cases. Front panels etched aluminum with grey baked enamel background.

SPECIFICATIONS

INPUTS: Three low impedance microphone (50/250/600 ohm Cannon XL Connectors). One high impedance. (Phone jack connector). One bridging (W.E. type dual jack connector).

EQUALIZATION: Separate "Speech-music" switch for each channel.

RESPONSE: 30 to 20,000 cps $\pm$ 1 db.

TALK-BACK: Built-in microphone with key switch.

MICROPHONE GAIN: 100 db.

POWER REQUIREMENTS: 117 volts A.C. 50-60 cycles or battery pack.
(12 V or 24 V. "A" Battery - 225 V. "B" Battery).

LINE OUTPUT: Balanced 50/250/600 ohms through Cannon XL Connector.

MIXING: High level after amplification.

NOISE: Equivalent input grid noise, Grid shorted less than 3 microvolts. Equivalent input noise, Grid resistor 100,000 ohm, less than 6 microvolts.

DISTORTION: Type measurement: Intermodulation of 60 cycles and 2000 cycles with amplitude ratio of 4/1 for 60/2000 cycles. Intermodulation percent at 0 DBM less than 2-1/2
Intermodulation percent at +6 DBM less than 3-1/2

TUBE COMPLEMENT: 3 - 5879
3 - 12AX7
1 - 12AU7
1 - 6X4

MONITOR: Cathode follower into two phone jack outputs with volume control; 4-1/2" V.U. meter.

PANELS: Etched aluminum with light grey baked enamel background. (6 1/4" x 14").
(Also available for rack mounting 7" x 19").

CASE: Grey leatherette with matching hard fiber edge binding.

WEIGHT & SIZE: Closed case 7" x 13" x 16", gross weight - 19 pounds.

NEW

MAGNAPHONIC SYSTEMS COMPONENTS from Magnasync

STUDIO MIXING CONSOLETTES

Specifically designed for motion picture re-recording applications

A miniaturized studio mixing console with six input channels and patch bay selection of three program equalizers. Up to three plug-in microphone pre-amplifiers may be optionally added. Line amplifier has input and output level controls; "film-direct" monitor switch with film gain control, and matching blank panels are provided for custom additions.

GENERAL SPECIFICATIONS:

Modular construction of cabinet and components, optional plug-in microphone pre-amplifiers, and hinged top door for complete accessibility to all components.

Frequency response: 20 to 20,000 cps, ± 1.5 db.

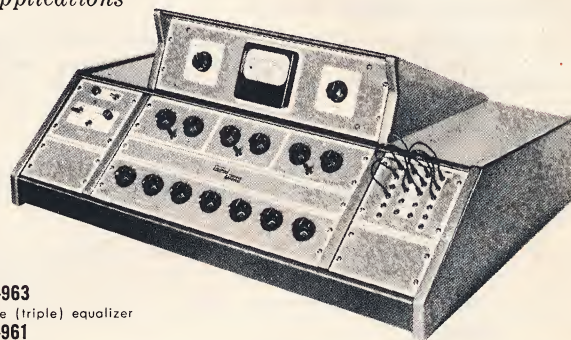
Signal-to-noise ratio: 70 db below program level.

Distortion: Less than 0.5% total harmonic.

Output level: Maximum 20 dbm.

Power consumption: 80 watts.

Size: 34½" width, 24" depth, 14" height.



Model G-963

with in-line (triple) equalizer

Model G-961

with single equalizer



PROGRAM EQUALIZERS

Specifically designed for magnetic recording and reproduction. No maintenance required... all components except switches are sealed and encapsulated. Guaranteed performance.

GENERAL SPECIFICATIONS

Impedance: 600 ohms.

Switching: Silent "IN-OUT" with 14 db loss pad.

Insertion loss: 14 db.

Input level: -70 dbm min., +20 dbm max.

Controls:

Low frequency, 8 positions in 2 db steps.

High frequency, 8 positions in 3 db steps.

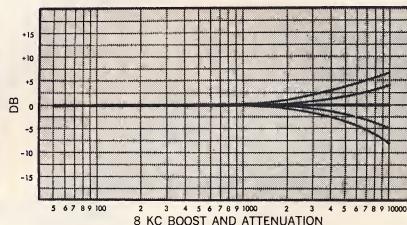
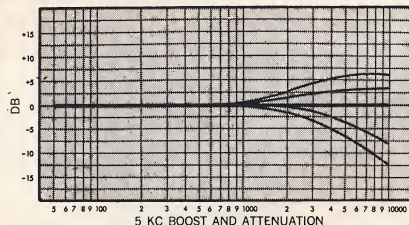
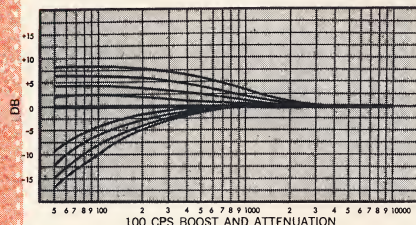
Mounting: Standard WE hole spacing.

Size: 19" x 3½" x 3½".

Model G-801, Single Equalizer

Model G-803, In-line (triple) Equalizer

Immediate delivery



TURNTABLE DEGAUSSER

semi-automatic - total erasure

Immediate delivery

For all magnetic films and instrumentation tapes

Model A-937 DEGAUSSER features a predetermined 20-second timed cycle that completely eliminates guesswork. The pushbutton-controlled motor-driven turntable insures fast and complete bulk erasure and eliminates noise patterns which are generated by irregular rotational motion.

Model M-937 MANUAL DEGAUSSER—smooth, free-wheeling turntable, will not damage edges of instrumentation tapes or films.

Model G-936 CONVENTIONAL DEGAUSSER—an effective bulk eraser economically priced.

INTERNATIONAL LEADERS IN THE DESIGN AND MANUFACTURE OF QUALITY MAGNETIC FILM RECORDING DEVICES



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CONSOLETTES SERIES 900

CONSOLETTES MODEL G-961

This consolette includes the following, which are housed in an attractive metal enclosure:

1. Line Amplifier Model G-700. This amplifier has a maximum gain of 60 db with an input level switch to change the gain to 40 db if desirable. It also has an output level switch which affords three output levels; 0 db, -10 db and -20 db. The maximum power output is +20 dbm. The output is monitored visually by a 4" illuminated VU meter and orally by headphones connected at the monitor panel.
2. G-801 Program equalizer
3. Power control and monitor control panel. This panel includes the power-on switch and indicator, the FILM-DIRECT monitor switch, the film gain control and the monitor headphone jack.
4. Ladder attenuator panel which includes six precision attenuators for the individual inputs, the matching network and the master gain control.
5. Patch bay. This miniaturized patch bay allows "mixer" to patch the equalizer into any of the inputs, between the master and the line amplifier, or, in the output line which is a 600-ohm balanced line.
6. All inputs are 600-ohm balanced lines.

CONSOLETTES MODEL G-963

This consolette is identical to the Model G-961 except that it includes the G-803 equalizer in place of the G-801. The patch bay is wired so that any of the three program equalizers can be patched into any of the circuits described under para. 5 above.

ACCESSORIES

1. Up to three microphone pre-amplifiers can be added to either model consolette. The pre-amplifiers are wired for a 50-ohm input; however, they can be strapped for either 250-ohm or 600-ohm.
2. A cueing oscillator may be added in place of one of the blank panels supplied. When keyed, the oscillator injects a 400 cycle tone which is applied to the output line at 0 dbm level.
3. A talk-back microphone which, when keyed, affords talk-back from the "mixer" to the "recordist."

G-801 & G-803 PROGRAM EQUALIZERS

The Model G-801 is a single equalizer; whereas, the Model G-803 is a triple equalizer, each unit having identical characteristics to the G-801.

Both models are mounted on a standard 3 1/2" x 19" etched aluminum panel.

Electrical Specifications:

1. Input and output impedance: 600 ohm
2. Insertion loss: 14 db
3. The equalizer may be keyed in or out at any time without affecting the overall level. The 14 db pad is inserted when the equalizer is switched out.
4. All switching is noiseless, should the equalization be changed while in use.
5. A maximum power level of +20 db should not be exceeded.
6. Frequency response curves for the various settings are attached.
The 100 cycle boost is in 2 db steps up to +8 db.
The 100 cycle roll off is in 2 db steps starting at -4 to -10 db.
The 5 KC boost and attenuation is in two steps of 3 db each.
The 8 KC boost and attenuation is in two steps of 3 db each.

MAGNASYNC DEGAUSSERS

MODEL A-937 SEMI-AUTOMATIC DEGAUSSER

This model is semi-automatic in that after the film or tape is placed on the turntable, a button is depressed starting the table which revolves for 12 seconds, then automatically stops, leaving the degaussing field on for an additional 10 seconds. This allows the operator to remove the film from the field. The advantage of this type degausser is that the film revolves smoothly, which eliminates any noise patterns that could be left using other types of degaussers. It is designed to accommodate all sizes of audio tape, instrumentation tape or magnetic film. It is housed in an attractive aluminum housing with operating instructions screened in adjacent to the start button.

MODEL M-937 MANUAL DEGAUSSER

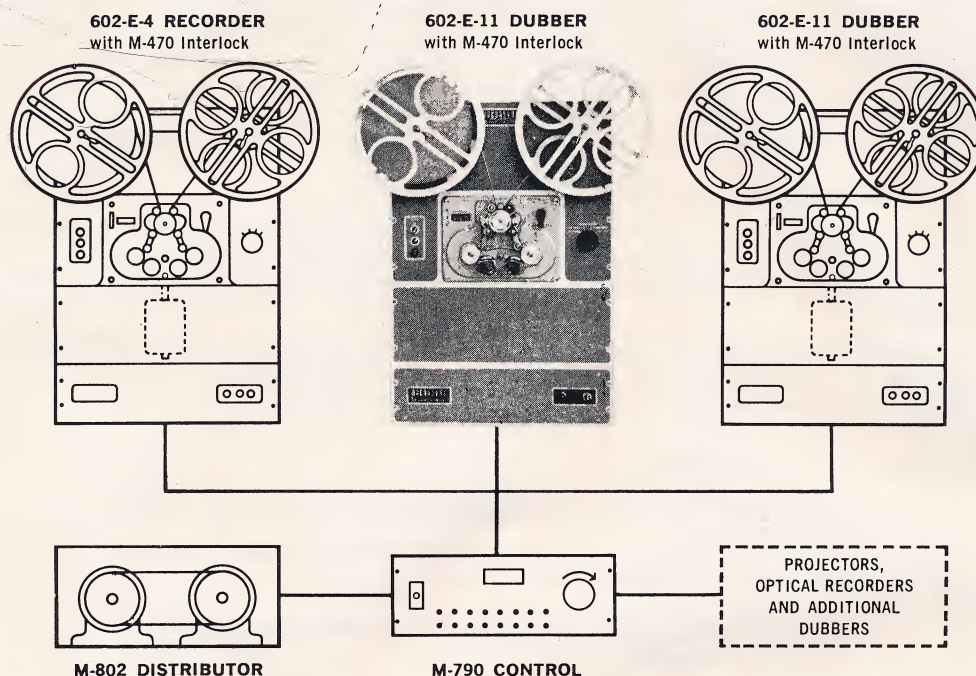
This degausser is almost identical in appearance to the Model A-937; however, it is manually operated. The film or tape is placed on the table and after energizing the degaussing field with the power on switch, the table is revolved manually for two or three revolutions after which the film is removed. When the film is completely out of the degaussing field, the degausser is manually switched off. One advantage of this model, as well as the A-937, is that the edges of the film or tape are not damaged in the degaussing process due to the use of a revolving turntable.

MODEL G-936 CONVENTIONAL DEGAUSSER

This model is similar to a number of degaussers now on the market. It is housed in a square metal enclosure with a phenolic top. It has a centering post to locate the hub of the film. In operation, the film is placed with the hub over the centering pin and the field energized with the power on switch. It is then slowly revolved two or three times and then gradually removed from the degaussing field before the power is switched off.

PRACTICAL, ECONOMICAL ELECTRICAL INTERLOCK

foolproof—inexpensive—easy to install



A TYPICAL MAGNASYNC ELECTRICAL INTERLOCK SYSTEM, FROM \$5085

COMPLETE MIXING-EQUALIZING CONSOLES TAILORED
TO YOUR REQUIREMENTS... FROM \$1000

You can now enjoy the advantages of major studio techniques through the revolutionary Magnasync electrical interlock system.

Standard Magnasync dubbers and recorders are interlocked with projectors, optical recorders, etc., through packaged assemblies—all elements in the system are readily connected by prefabricated interconnecting cables.

Our engineering department will gladly furnish proposal diagrams and quotations on request.

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ELECTRICAL INTERLOCK PLANNING GUIDE

The three major basic components of an electrical interlock system are: interlock motors for the individual pieces of equipment in the system, interlock motor distributor, and an interlock motor distributor control panel.

So that we can better understand the function of each component, we should first have a common definition of terms used with respect to electrical interlock.

The interlock motor distributor is frequently referred to as a "selsyn transmitter" motor distributor or simply as the "master." Interlock motors that are mounted on individual pieces of equipment in the system such as dubbers, recorders, projector, etc., may also be called "selsyn," "slaves" or "repeaters." To avoid confusion, we should think of these terms as synonyms.

The distributor control panel serves as a means for (a) selective switching of individual interlock motors in the system, (b) slow starts and stops, and (c) reversing the distributor from a remote location (such as a mixing console or control booth). The interlock motor distributor controls the motions of the individual interlock motors in the system from a dead stop to full run in either direction. With a distributor interlock system, the individual "slaves" act as drive motors. The synchronous motors, on the dubbers or recorders, are not running when the distributor is in operation. Since all Magnasync recording and reproducing mechanisms are furnished standard with direct drive synchronous drive motors, any single unit in the system may be operated by its synchronous motor without running the distributor system.

The following is a step-by-step plan of a typical 16 MM interlock system:

Requirements: (A) Three dubbers for composite mixing of music, narration and sound effects. (B) Recording facilities suitable for studio and location. (C) Interlocked projection for double system screenings, narrative post sync recording, sync effects post recording and musical scorings. (D) Audio mixing for both recording and dubbing.

Depending on your budget and the peculiarities of your operations, you may select either X-400, 602, or 916 series equipment. For this example, let's assume that you have selected 602 series equipment after studying the individual catalog sheets and the "Equipment Net Price Schedule."

Quantity	Description
1	602-E-5 or 602-C-5 portable recorder (suitable for studio or location operation.)
3	602-E-11 or 602-C-11 single reproducers. (If needed, both edge and center tracking heads may be included.)

You may then select the necessary interlock accessories from Accessories Price Schedule:

Quantity	
3	M-470 interlock motors for Type 11 reproducers
1	M-450 interlock motor & sub case for Type 5 recorder
1	M-434 interlock motor attachment for projector
5	M-437 interlock motor relays
1	M-801 interlock motor distributor
1	M-790 distributor control panel
1	C-46 interlock motor cable set

With electrical interlock, you can locate the several machines any place you want in your studio. Supposing you want to conserve floor space, however, and have instructed us to assemble all three dubbers in one cabinet (like the type 13 outfit). In that case you add the following to your bill of materials:

Quantity	Description
1	R-77 deluxe enclosed rack cabinet.

The next step will be the selection of audio mixing facilities. Here, we have several choices. The least expensive package would be the G-924 mixer with three C-42 loss pad cables. The series G-946 and G-956 dubbing consoles are specifically designed for motion picture re-recording, where a higher degree of control is necessary in the mixing of a composite track. A still more complete audio mixing system can be supplied with a custom mixing console. (See catalogue sheet) Before you decide, you should give us as much information as you can about your present and future operations and let us "custom" plan a system to meet your audio mixing requirements.

For 17½ MM operation, you will require 702 or 135 series recorders and reproducers, and for 35 MM operation you may choose either 135 or 935 series recorders and reproducers. In a 702 or 135 series package, the same interlock bill of materials will be needed. On "Accessories Price Schedule," you will find the proper interlock accessories for 917 or 935 series equipment.

When you are considering an interlock system, call on the service and assistance of the Magnasync Sales and Engineering departments. By working together, we can plan a system within your budget.